

Previous research finds that parental mental health problems in early life act as a childhood stressor with life course consequences. However, these studies have not thoroughly examined the role gender plays in shaping this relationship. This study uses data from the Panel Study of Income Dynamics (2007-2015) and the Childhood Retrospective Circumstances Study (2014) (n=4,010) to examine the relative role incidence and intensity of maternal and paternal mental health problems play in shaping respondent's adult mental health. Both maternal and paternal mental health problems raise a respondent's distress in adulthood, and the effect is largely the same. However, longer exposure to paternal mental health problems confers the greatest risk to offspring's adult mental health. These patterns do not differ by child's gender. Results highlight that both mother's and father's mental health are predictive, albeit in different ways, of children's life course mental health.

WORKING PAPER DO NOT REPLICATE: The Impact of Maternal and Paternal Mental
Health Problems on Children's Adult Distress

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INTRODUCTION

The life course perspective suggests that childhood is a sensitive period in which stages of biological, mental, and emotional development make one particularly vulnerable to the effects of adversity (Elder 1998; Kuh et al. 2003; Miller, Chen, and Parker 2011). Stress experienced during a sensitive period may raise baseline stress levels in an individual throughout their life or may increase the probability of accumulating subsequent stressors across the life course (Ferraro and Shippee 2009; Schafer and Ferraro 2013). Of growing interest has been the long-term impact of parental affect in early life, and specifically, the exposure to parental depression (Angelini et al. 2016; Avison 2010; Goosby 2013).

Parental depression is a noteworthy source of stress during a sensitive period as it is associated with irritability towards the child, lack of nurturing, and strained home environments (Avison and Comeau 2013; Cummings, Mark, Keller, and Davies 2005; Elgar et al. 2007).

Recent work focusing on the long-term impacts of parental depression has linked it to increased depressive symptoms (Angelini et al. 2016; Goosby 2013) and higher exposure to chronic and episodic stressors (Timko et al. 2009).

Though these studies have set the foundation for understanding parental mental health as a childhood stressor with life course consequences, few have explored the role of gender in shaping this relationship. This is problematic as gender relates to the incidence and presentation of depression as well as the formation of parent-child bonds (Avison and Comeau 2013; Rosenfield and Mouzon 2013). For example, Mothers are expected to be the predominate caretaker and thus more directly involved in the lives of children (Chodorow 2002; Moser and Jacob 1997). Moreover, public beliefs surrounding mental illness suggest that women are more prone to exhibit symptoms of depression (Rosenfield and Mouzon 2013). Consequently, mothers are disproportionally the focus in literature on parental mental health problems and many studies claim that maternal mental health is more important than paternal mental health in predicting children's outcomes (Haller and Chassin 2011; Kahn, Brandt, and Whitaker 2004; Meadows, McLanahan, and Brooks-Gunn 2007).

In this study, I draw on the life course perspective and gender theory to examine how gender shapes the long-term consequences of parental mental health problems in childhood. I leverage a nationally representative panel data set to assess how this stressor impacts children's mental health across multiple years of adulthood. Furthermore, recent research on other adverse childhood circumstances has emphasized that the relationship between these circumstances and

adult health may be contingent on the characteristics of the adversity (Friedman et al. 2015; Schilling, Aseltine, and Gore 2008). Therefore, in addition to analyzing the relative impact of the incidence of maternal and paternal depression, I also include measurements of the severity and duration of maternal and paternal depression.

The Long-Term Impact of Parental Affect

Early life is a crucial period of biological, emotional, and mental development. The plasticity of this period makes individuals extremely vulnerable to the impact of stressors and has therefore been referred to as a sensitive period (McFarland 2017; Miller et al. 2011). Parental mental health problems may act as a stressor for children during a sensitive period because parents are central to the lives of their children and provide perhaps the most essential source of social contact (Schepman et al. 2011; Umberson, Crosnoe, and Reczek 2010). Mothers and fathers with mental health problems may display impaired parenting behaviors such as harshness or disengagement from the children's needs. These behaviors, in turn, lead to a range of deleterious emotions for children including, but not limited to, insecurity and distress (Cummings, Mark et al. 2005; Elgar et al. 2007; Noonan, Burns, and Violato 2018; Wilson and Durbin 2010). In addition to direct contact, parents' mental health could lead to other sources of stressful family dysfunction, such as increased arguments within the home, parental abuse of drugs/alcohol, or parental divorce (Avison 2010; Hanington et al. 2012).

Both the stress process model and the life course perspective have highlighted that misfortune during a sensitive period can become embedded in individuals and lead to worse health outcomes for individuals throughout their lives and into adulthood (Kuh et al. 2003; Pearlin 2010). First, stressors experienced during a sensitive period may trigger a lasting physiological response in the body (Pearlin 2010; Umberson et al. 2014). These stressors are

considered enduring or persistent and lead to heightened distress across the life course (Schafer and Ferraro 2013). Second, net of increased baseline distress, negative events during a sensitive period may also be associated with mounting distress with age. This may be due to a compounding of negative symptomology throughout the life course or through the accumulation of related stressors that further worsen adult health (Ferraro and Shippee 2009; Ferraro and Wilkinson 2013; Umberson et al. 2014). Thus, those who experience parental depression in childhood may have heightened distress across the life course and may become increasingly worse off as they age.

Gender and Parental Mental Health

Though parental mental health problems, in general, may have long-term consequences for the mental health of children, there is reason to believe that the gender of the parent suffering from mental health problems may shape this relationship. First, mothers are framed as the predominate caretakers and are therefore expected to be more directly involved in children's lives compared to fathers. This increased involvement may consequently lead to depressive symptoms having a greater direct impact on children (Connell and Goodman 2002; Moser and Jacob 1997). Second, female psychopathy has been more closely linked to disruption within the home compared to male psychopathy (Connell and Goodman 2002). This alludes to the fact that maternal mental health problems may create a more stressful home environment than paternal mental health problems. Finally, women are more likely than men to experience internalizing disorders such as depression (Elgar et al. 2007; Rosenfield and Mouzon 2013). Thus, there may be a greater number of mothers displaying depressive symptoms than fathers. However, it should be noted that recent work has found no gender difference in the added distress associated with

parenting (Evenson and Simon 2005). Women generally display more depressive symptoms, but parenting is not more stressful for women than men.

Despite the theoretical reasons for believing that maternal depression is more consequential than paternal depression, empirical findings have been largely inconclusive. In support of the greater role of maternal mental health, Khan et al (2014) found that children of mentally ill mothers had more behavioral problems than children of mentally ill fathers. Additionally, Haller and Chassin (2011) found that maternal, but not paternal, negative affect was associated with children's internalizing symptoms and negative emotionality.

Contrastingly, Mckinney and Szkody (2018) found that maternal depressive symptoms did not predict harsh parenting, and children's subsequent anxiety and depressive problems, more strongly than paternal depressive symptoms. Ohannessian and colleagues (2005) noted that both maternal and paternal depression predicted adolescent conduct disorder and depression. Finally, Shafer, Fielding, and Wendt (2017) found that only paternal depression had direct effects on children's internalizing and externalizing behaviors. Due to the mixed results from extant literature, it remains unclear whether maternal depression truly impacts children to a greater extent than paternal depression. Consequently, it is unclear whether maternal and paternal depression have different long-term consequences on children's outcomes.

Incidence vs. Severity and Duration

Recent work in the study of childhood adversity has generally noted that heterogeneity in the experience with a stressor corresponds to variation in adult health outcomes (Friedman et al. 2015; Schilling et al. 2008). It is likewise imperative to recognize that experiences with parental depression may vary in severity and duration. These variations, in turn, may predict the amount of stress placed on children during the sensitive period and the subsequent long-term impacts on

their mental health. For example, the severity of maternal mental health calculated through the Delusions-Symptoms-States Inventory (DSSI) has been positively correlated with child's increased depressive symptoms and behavioral problems in early life (Brennan et al. 2000; Hammen and Brennan 2003). Additionally, children who are exposed to poor parental mental health for most of their youth may find it particularly difficult to escape the negative consequences compared to those who only experience this stressor for a brief period—a phenomenon referred to as duration-dependence (George 2014).

Variations in severity and duration of parental depression may be intimately tied to the gender of the parent afflicted. In fact, women have been found to have longer episodes of depression and more severe presentations of depressive symptomology (Essau et al. 2010; Kornstein et al. 1995). Accordingly, those exposed to maternal rather than paternal depression may be exposed to more severe and longer lasting cases. However, it is not known whether increases in severity/duration of maternal depression impact children's adult mental health in similar ways to increases in severity/duration of paternal depression. For instance, though more severe cases of maternal depression may be more prevalent, it could be that more severe cases of paternal depression are more consequential for offspring's outcomes. Therefore, in addition to analyzing whether the incidence of maternal and paternal depression confer equal risks to offspring's mental health, I will also analyze if increases in severity and duration of maternal and paternal depression operate in similar fashions.

METHODS

Data

The data for this study comes from the 2007-2015 waves of the Panel Study of Income Dynamic (PSID). The PSID is an ongoing nationally representative sample of United States households. The original PSID was collected annually beginning in 1968 with a sample of over 5,000 households. Since 1997, the survey has been collected biannually (McGonagle & Freedman 2015). In 2014, the PSID included a Childhood Retrospective Circumstances Study (CRCS) supplement that was given to a sample of household heads and spouses/partners from PSID families that participated in the 2013 wave. The purpose of the CRCS was to supplement information on adult respondents' childhood experiences that were not captured in the main PSID interview (McGonagle & Freedman 2015). Thus, the CRCS is uniquely suited for answering questions on the long-term impacts of childhood experiences on adult mental health.

The present analysis focuses on adult respondents ages 25-65 years old at the 2007 wave of the PSID. This age range captures individuals through early to mid-adulthood. Only main respondents of a PSID household were asked to provide information on his/her psychological distress. Consequently, the present analysis focuses solely on respondents who participated in the CRCS and who also provided information on their psychological distress in adulthood in at least one wave (n=4,053). Additionally, I exclude cases in which the respondent did not provide base information on their parents' mental health (n=43). Table 1 provides descriptive statistics for the final analytic sample of 4,010 respondents.

Measures

Adult Mental Health. Adult Mental health is measured using the K-6 Non-Specific Psychological Distress Scale at each wave of analysis. This scale is a shortened version of the K-10 scale originally developed by Kessler and colleagues (2003) and measures how often the

respondent felt nervous, hopeless, restless/fidgety, that everything was an effort, so sad that nothing could cheer him/her up, and/or worthless in the past 4 weeks. Scores on the K-6 scale range from 0 to 24. The K-6 has often been used to estimate the prevalence of mental disorder with a cut off of 13 or higher, though studies have suggested that a score of 5 or higher may still signal moderate mental distress (Prochaska et al. 2012).

Parental Mental Health Problems. Prior to answering any questions on childhood experiences with parental mental health problems, respondents were asked to identify one mother figure and one father figure for whom they spent the majority of their childhood. All questions asked about the respondent's parents during the respondent's childhood referred to the person whom they indicated was their primary mother or father figure. This primary figure could be a biological parent, a stepparent, a relative, or another non-relative parent figure.

Respondents were asked if before they were 17 their "mother/stepmother/woman who raised R" experienced "periods lasting 2 or more weeks where she was sad or depressed for most of the time." The same question was also asked about the respondent's "father/stepfather/ man who raised R." Using the binary responses from these questions, I created categorical variables indicating which parent experienced the problem. Respondents were coded "0" if neither parent was depressed during their childhood, "1" if just their mother figure was, "2" if just their father figure was, and "3" if both parents had depression. It should be noted that this study focuses on one mental health problem. Future work should examine whether other types of parental mental illness, both internalizing and externalizing, showcase similar patterns.

Severity. The severity of parental mental health problems is measured using an index capturing the number of additional indicators of parental mental health problems the respondent reported witnessing in addition to the dichotomous (yes/no) acknowledgment of the presence of

depression/anxiety. Respondents were asked whether their mother/father ever received treatment, whether their mother/father was ever hospitalized, whether the depression ever interfered a lot with the mother's/father's life or activities, and if during the time the depression was at its worst, the mother/father experienced other symptoms (such as low energy or changes in sleep). These questions yield a total of 4 possible additional indicators of parental depression for both the mother and father figure. Those who did not indicate that their mother/father had depression could not have witnessed any additional indicators and were coded "0" on this index.

Duration. Duration of parental depression is measured by the question, "was this during all, most, some, or only a little of your childhood, before you were age 17?" This question was asked for both the mother and father figure. Scales were collapsed to reflect the following categories: "0" none of childhood, "1" some/a little of childhood, and "2" all/most of childhood. Those who did not indicate that their mother/father had depression were coded "0" on this index.

Covariates. Gender and race of the respondent are included as dummy variables with gender coded as "male" (ref.) and "female," and race coded as "white" (ref.) and "non-white." Education in adulthood is measured as the maximum number of years of education the respondent reported attaining between the 2007-2015 waves. Birth cohort is included as a time-invariant continuous variable. In addition to demographic controls, I control for various childhood circumstances.

Ideally, childhood circumstances could be captured using previous waves of the PSID from when respondents were under the age of 17. However, of the respondents in my sample about a third (n=1,424) did not have any prospective information on their childhood and less than

5 percent (n=174) were captured for the entire length of their childhood. To retain the individuals with little to no prospective data, I use retrospective information gathered in the CRCS to measure childhood circumstances. Dichotomous indicators are included for whether the respondent's mother figure was their biological mother and whether their father figure was their biological father. Childhood socioeconomic status is measured with the question, "Before age 17, compared to the average family at the time, how was the financial situation of the family that you lived with?" Responses range from 1-5 with 1 indicating that the respondent's family was "a lot better off than the average family" and 5 indicating that the respondent's family was, "a lot worse off than the average family." An additional measure capturing whether the respondent's family ever received welfare was based on the question "was there ever a period of 3 months or more when your family was on welfare or received food stamps" when the respondent was 0-5 years old, 6-12 years old, or 13-16 years old. Respondents were coded "0" if they responded no to each time period and "1" if they said yes to any time period.

Analytic Plan

I use growth curve models in a multilevel framework to assess the relationship between parental mental health problems and children's distress in adulthood. These models allow me to model both within-individual change in distress with age, as well as between-person differences in baseline and growth of distress with age. I first estimate an unconditional model of distress as a linear function of age. Age is mean centered to facilitate estimation. Likelihood ratio tests indicate that the addition of a random slope is the preferred model over the model with only a random intercept. The level 1 equation specifies that the outcome, y , at time t for individual i is a function of person-specific random intercepts and linear slope (i.e. random effects) over age:

$$Y_{it} = \Pi_{0i} + \Pi_{1i}Age_{it} + e_{it} \quad (1)$$

The outcome is the K-6 psychological distress score for individual i at time t . Π_{0i} represents the intercept or baseline level of distress for individual i , and Π_{1i} represents the change in distress with every year increase in age for individual i . The level 2 equation is specified as follows:

$$\Pi_{0i} = \beta_{00} + r_{0i} \tag{2}$$

$$\Pi_{1i} = \beta_{10} + r_{1i} \tag{3}$$

Where β_{00} represents the average intercept and β_{10} represents the average slope for the sample. For each individual r_{0i} is the random effect for the intercept and r_{1i} is the random effect for the linear slope. Time-invariant covariates are included in level 2 to explain between-person differences in intercept and growth in distress across age.

First, I assess the relative impact of the incidence of paternal and maternal mental health problems. I then separately consider the severity and duration of the parental depression. All descriptive statistics and models were computed using STATA version 15.1. Results did not differ significantly by respondent gender; therefore, results are presented below using the full sample.

RESULTS

Descriptive Results

Table 1 provides descriptive statistics for the variables used in this analysis. Across all waves, the average K-6 score was fairly low and never crosses the threshold of moderate distress (Prochaska et al. 2012). A majority of respondents (83.38 percent) did not have a mother nor a father that experienced depression during the respondents' childhood. A larger percentage of respondent's recalled having just a mother with depression (11.82 percent) than just a father (2.36 percent), or both parents with depression (2.44 percent). The average severity of maternal

depression and paternal depression were both very low (.24 additional indicators and .07 additional indicators, respectively). However, a higher percentage of respondents indicated experiencing maternal depression for most/all of their childhood (3.31 percent) compared to those that indicated experiencing paternal depression for most/all of their childhood (1.15 percent).

Table 1. Descriptive Statistics. Panel Study of Income Dynamics (2007-2015) and Childhood Retrospective Circumstances. (N=4,010)

Variable	Mean (SD) or %
Respondent Distress	
K-6 2007	3.26 (3.92)
K-6 2009	3.26 (3.83)
K-6 2011	3.16 (3.85)
K-6 2013	3.09 (3.89)
K-6 2015	2.95 (3.90)
Parental Depression	
Gender of Parent with Depression	
<i>No Parents with Depression</i>	83.38
<i>Only Mother Depression</i>	11.82
<i>Only Father Depression</i>	2.36
<i>Both Parents Depression</i>	2.44
Severity of Father's Depression (0-4)	0.07 (0.41)
Severity of Mother's Depression (0-4)	0.24 (0.76)
Duration of Childhood Exposed to Father's Depression	
<i>None</i>	95.56
<i>A little/some</i>	3.28
<i>Most/All</i>	1.15
Duration of Childhood Exposed to Mother's Depression	
<i>None</i>	86.18
<i>A little/some</i>	10.50
<i>Most/All</i>	3.31
Demographics	
Male	38.38
White	64.02
Age 2007	42.76 (11.35)
Age 2009	44.77 (11.36)
Age 2011	46.81 (11.36)
Age 2013	48.76 (11.35)
Age 2015	50.84 (11.30)
Birth Year	1963.60 (11.37)

Education (in years) (0-17) 14.20 (2.14)

Childhood Statuses

Welfare in Childhood	21.93
Well off Financially in Childhood (0-5)	2.86 (0.91)
Biological Mom in Childhood	92.86
Biological Dad in Childhood	76.29

Results from Growth Models Predicting Adult Distress

Results from the unconditional growth model (not shown) suggest that the average trajectory of distress across age for this sample is fairly low and decreasing. On average, respondent's do not cross the threshold of moderate distress (approximately 5 on the K-6 scale) throughout adulthood. Table 2 presents the preliminary results from growth models predicting respondent's adult distress by respondent's experience with parental mental health problems. Model 1 compares the incidence of parental depression by the gender of the afflicted parent. Results from Model 1 suggest that those who experienced just maternal depression do not differ in their adult distress compared to those who experienced only paternal depression. Ancillary analyses (not presented here) indicate that those who experience any parental depression (mother only, father only, both mother and father) have greater baseline distress than those who had no experience with parental depression. Thus, parental depression, no matter the gender of the parental afflicted, has long-term consequences for offspring's mental health. Notably, those who experience both maternal and paternal depression have the greater distress in adulthood and have greater growth in distress over age compared to those with only one parent afflicted (either mother or father) and those with neither parent afflicted.

Table 2. Growth Model Results Predicting K-6 Psychological Distress by Parental Depression. Panel Study of Income Dynamics (2007-2015) and Childhood Retrospective Circumstances Study (2014)

	Gender of Parent with Depression		Severity of Parental Depression		Duration of Parental Depression	
	Coef.	SD	Coef.	SD	Coef.	SD
Intercept	9.722***	(0.450)	8.207***	(0.415)	8.324***	(0.413)
Gender of Parent with Depression (ref="Mother only")						
<i>No Parents with Depression</i>	-1.320***	(0.155)				
<i>Only Father Depression</i>	0.460	(0.353)				
<i>Both Parents Depression</i>	1.321***	(0.342)				
Severity of Mother's Depression			0.468***	(0.068)		
Severity of Father's Depression			0.618***	(0.126)		
Duration of Mother's Depression (Ref= "none")						
<i>a little/some</i>					0.958***	(0.166)
<i>most/all</i>					2.134***	(0.286)
Duration of Father's Depression (Ref= "none")						
<i>a little/some</i>					1.323***	(0.283)
<i>most/all</i>					2.565***	(0.484)
Male	-0.382***	(0.102)	-0.396***	(0.103)	-0.369***	(0.102)
White	0.087	(0.114)	0.089	(0.115)	0.068	(0.114)
Birth Year	-0.016*	(0.008)	-0.018*	(0.008)	-0.016*	(0.008)
Education (in years)	-0.334***	(0.024)	-0.322***	(0.024)	-0.328***	(0.024)
Welfare	0.619***	(0.141)	0.659***	(0.142)	0.577***	(0.141)
Well off Financially in Childhood	-0.089	(0.057)	-0.074	(0.057)	-0.102	(0.057)
Biological Mom in Childhood	-0.393*	(0.200)	-0.344	(0.201)	-0.370	(0.200)
Biological Dad in Childhood	-0.321*	(0.132)	-0.297*	(0.133)	-0.289*	(0.132)

Linear Slope (age)	-0.144***	(0.034)	-0.147***	(0.031)	-0.132***	(0.031)
Gender of Parent with Depression (ref="Mother only")						
<i>No Parents with Depression</i>	-0.001	(0.012)				
<i>Only Father Depression</i>	-0.016	(0.026)				
<i>Both Parents Depression</i>	0.065**	(0.024)				
Severity of Mother's Depression			-0.001	(0.005)		
Severity of Father's Depression			0.007	(0.009)		
Duration of Mother's Depression (Ref= "none")						
<i>a little/some</i>					0.010	(0.012)
<i>most/all</i>					-0.017	(0.022)
Duration of Father's Depression (Ref= "none")						
<i>a little/some</i>					0.016	(0.021)
<i>most/all</i>					0.104**	(0.036)
Male	-0.003	(0.008)	-0.003	(0.008)	-0.001	(0.008)
White	-0.005	(0.009)	-0.008	(0.009)	-0.002	(0.009)
Birth Year	-0.000	(0.000)	-0.000	(0.000)	-0.000	(0.000)
Education (in years)	0.005**	(0.002)	0.005**	(0.002)	0.004*	(0.002)
Welfare	-0.008	(0.011)	-0.009	(0.011)	-0.005	(0.011)
Well off Financially in Childhood	0.005	(0.004)	0.007	(0.004)	0.004	(0.004)
Biological Mom in Childhood	0.010	(0.015)	0.017	(0.015)	0.006	(0.015)
Biological Dad in Childhood	0.002	(0.010)	0.000	(0.010)	0.004	(0.010)
Random Effects	Variance	SE	Variance	SE	Variance	SE
Constant	7.041	0.848	6.561	0.264	7.037	0.241
Age	0.000	0.000	0.000	0.000	0.000	0.000
Residual	6.107	0.075	6.078	0.075	6.050	0.075
Likelihood-Ratio	-42876.03		-42538.375		-42377.055	
N	16978		16851		16812	

Models 2 and 3 compare the impact of maternal and paternal depression severity and duration. Results from Model 2 suggest that increases in the severity of both maternal and paternal depression are associated with increases in baseline distress, with no impact on the growth of distress over age. Post hoc tests suggest that the strengths of these coefficients are not significantly different.

Results from Model 3 indicate that compared to no experience with maternal depression, those who experienced maternal depression for a little/some or most/all of their childhood have greater baseline distress in adulthood. Similarly, those who experienced paternal depression for a little/some or most/all of their childhood have greater baseline distress in adulthood compared to those with no paternal depression in childhood. Post hoc test reveal that the strengths of these coefficients are not significantly different, therefore paternal and maternal depression duration have similar impacts on offspring's baseline distress. However, those who experienced paternal depression for most/all of their childhood also have greater growth of distress with age compared to those with no paternal depression in childhood. Thus, those who experienced the longest duration of paternal depression have increasing distress in adulthood, whereas the effect of maternal depression duration is more consistent as individuals age.

DISCUSSION

Past research has suggested that parental mental health problems, experienced during childhood, may have long-term negative consequences on offspring's mental health (Angelini et al. 2016; Goosby 2013). However, few studies have considered how the gender of the parent afflicted may shape this relationship. Namely, though theoretical arguments have suggested that maternal mental health is particularly consequential for children's outcomes (Kahn et al. 2004; Moser and Jacob 1997), there has been little empirical evidence that maternal and paternal

depression will have different impacts on children's mental health across the life course. Results from this study suggest that experiencing either maternal or paternal depression in childhood is significantly associated with children's increased distress in adulthood. However, the impact of maternal depression is not greater than that of paternal depression. In fact, it is children who experienced both maternal and paternal depression have the greatest distress in adulthood and this distress increases with age. Interestingly, these results did not differ by respondent gender. This partially negates prior work that asserts females are more sensitive to childhood stressors (including parental mental health problems) than males (Morris et al. 2014; Plass-Christl et al. 2017).

In addition to examining how the incidence of maternal and paternal depression influence offspring's mental health in adulthood, this study sought to acknowledge the heterogeneity that may exist in the experience with parental mental health problems. In particular, that the experience with parental depression may differ in severity and duration. Results suggest that more severe cases of both maternal and paternal depression and longer duration exposed to these parental statuses are associated with children's greater baseline distress in adulthood. However, only the duration of paternal depression predicted greater baseline *and* growth of distress across age. This result suggests that children who are exposed to paternal depression for all/most of their childhood may be increasingly worse off compared to their non-affected peers as they age further into the life course. In contrast, those exposed to maternal depression for all/most of their childhood have greater distress than their non-affected peers, but this gap in distress does not change substantially as individuals age.

This study is not without limitations. First, only one type of parental mental health is examined. Many studies support that men are more likely to externalize rather than internalize

their distress (Rosenfield and Mouzon 2013). It may be that paternal distress is underestimated using the measurement of depression and would be better captured using externalizing measures such as drug or alcohol abuse. Future work with this study will seek to include more comprehensive measures of parental mental health that are available within the PSID.

Second, childhood circumstances, including parental depression, are retrospectively reported. The PSID did not begin collecting respondent distress via the K-6 scale until 2001. Therefore, parental depression while the respondent was under the age of 17 could not be collected prospectively for the majority of respondents. That being said, recent research supports the validity and reliability of childhood retrospective reports (Haas 2007). Moreover, Schraedley and colleague (2002) specifically found support for the reliability of retrospective accounts of parental psychopathology regardless of the respondent's own mental health. Furthermore, researchers have suggested that respondents are more likely to underreport instead of over-report negative childhood events, which would lead to conservative rather than incorrect estimates (Hardt and Rutter 2004).

A final limitation is the inability to measure the timing of parental mental health problems. It could be that this childhood stressor is particularly salient for life course outcomes when it occurs during a specific period of youth. Still, work that has been done on the timing of childhood adversity has suggested that stressors experienced in both young childhood and adolescence matter for health over the life course (Friedman et al. 2015). And even the earliest experiences of stress, such as those happening within the womb, have long been linked to worse adult health (Barker 1997). Regardless, it would be informative to see if these patterns hold true for parental mental health problems, or if individuals are more sensitive to the timing of this particular stressor.

Though results from this study are preliminary in nature, they highlight that parental depression, in either parent, is a stressful experience with long term consequences for children's mental health. Studies that only focus on maternal depression greatly mask the importance of paternal affect on children's outcomes. Moreover, studies that simply include dichotomous measurements of childhood stressors, such as parental depression, underestimate the impact of this experience when it is more severe and felt for longer portions of childhood. In summary, to best identify those who are at greatest risk of distress in adulthood, it is important to consider the gender of the parent afflicted, the severity of the experience, and the duration for which the child was exposed.

Some of the data used in this analysis are derived from Restricted Data Files of the Panel Study of Income Dynamics, obtained under special contractual arrangements designed to protect the anonymity of respondents. These data are not available from the author. Persons interested in obtaining PSID Restricted Data Files should contact PSIDHelp@umich.edu.

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